CLINICAL PROCEEDINGS

of the

CHILDREN'S HOSPITAL

WASHINGTON, D. C.

November 1954

VOLUME X NUMBER 11

ON EVERY COUNT **Superior**

VITAMIN SUPPLEMENTS FOR INFANTS

Superior flavor Exceptionally pleasan
"taste-tested" blend of flavors carefully protected during manufacture . . . n
unpleasant aftertaste . . . readily accepted without coaxing.

Superior stability  Outstanding stabilit
is achieved by Mead's specially developed solution. Poly-Vi-Sol and Tri-Vi-S
do not require refrigeration . . . no expiration dates on labels . . . they may b
safely autoclaved with the formula.

 **Superior convenience** Light, free-flowing . .
no mixing necessary . . . calibrated droppers assure easy, accurate dosage. Fo
infants, drop directly into the mouth. For children, measure into a spoon.

Superior hypoallergenicity  Poly-Vi-Sol® an
Tri-Vi-Sol® supply crystalline vitamins in a completely hypoallergenic solution

Poly-Vi-Sol

Six essential vitamins for drop dosage

Each 0.6 cc. supplies:	
Vitamin A	5000 units
Vitamin D	1000 units
Ascorbic acid	50 mg.
Thiamine	1 mg.
Riboflavin	0.8 mg.
Niacinamide	6 mg.

Tri-Vi-Sol

Vitamins A, D and C for drop dosage

Each 0.6 cc. supplies:	
Vitamin A	5000 units
Vitamin D	1000 units
Ascorbic acid	50 mg.

Available in 15 cc. and 50 cc. dropper bottles

MEAD JOHNSON & COMPANY • EVANSVILLE, INDIANA, U. S. A.

MEAD, JOHNSON & COMPANY, Suite 419 Eig Building, 8641 Colesville Road,
Silver Spring, Maryland. JUniper 9-1222

CLINICAL PROCEEDINGS

OF THE CHILDREN'S HOSPITAL

13th and W Streets, Washington 9, D. C.

Vol. X *November 1954* No. 11

CONTENTS

PUBLISHED MONTHLY BY THE STAFF AND RESEARCH FOUNDATION OF THE CHILDREN'S HOSPITAL, WASHINGTON, D. C.

Cases are selected from the weekly conferences held each Sunday morning at 11:00 A.M., from the Clinicopathological conferences held every other Tuesday afternoon at 1:00 P.M., and from the monthly Staff meeting.

This bulletin is printed for the benefit of the present and former members of the Attending and Resident Staffs, and the clinical clerks of Georgetown and George Washington Universities.

Subscription rate is $2.00 per year. Those interested make checks payable to "Clinical Proceedings Dept.," The Children's Hospital, Washington, D. C. Please notify on change of address.

Entered as second class matter November 21, 1946 at the post office at Washington, D. C., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 539, Act of February 28, 1925, authorized January 17, 1947.

DEDICATION TO DOCTOR MONTGOMERY BLAIR

Dr. John Washington

On December 30, 1953 an untimely illness deprived the Children's Hospital of the invaluable services of Doctor Montgomery Blair and necessitated his resignation in July 1954. His many friends in this his native city must look with admiration on his accomplishments to this date.

Born in 1896, he received his early education at the Potomac School, Saint Alban's School and the Hill School. When eighteen years of age at the height of World War I, he enlisted in the Marine Corps. The war ended before he was sent overseas. On return to civilian life he entered Princeton University and then the Harvard Medical School, class of 1925.

A classmate tells the following story: shortly before graduating Doctor Blair found himself a member of the Aesculapian Society, a student organization which yearly produces a stage performance lampooning the faculty. Traditionally this is a rough show and the scripts are barred from the mails. The 1925 skit stands out in the minds of contemporary Harvardians as an event as electrifying as the Boston Tea Party. It was a skit to end all skits. Classmates shuddered with the thought that the Aesculapians, possibly influenced by an ex-marine, had outdone themselves and faced certain expulsion. To their credit, the faculty rallied and even recovered to the point of readmitting Doctor Blair (after a year at Saint Luke's in New York) to Boston where he was a resident at the Children's Hospital for three years.

After finishing his residency he married Miss Virginia Mason. They have four charming daughters with two granddaughters and two grandsons.

From 1930 to 1942 Doctor Blair practiced pediatrics in this city, for the first five years in association with the late Doctor Charles Crawford. By 1940 his practice had expanded to "rat race" proportions and he took in a young associate, Doctor William Howard. In May 1942 this office closed "for the duration", Doctor Blair entering the army with the rank of major. After indoctrination at Walter Reed, he served from July 1942 to December 1943 as Assistant Chief of Medical Service in Torney General Hospital, Palm Springs, California. From January to August, 1943 he was Chief of Medical Service at Birmingham General Hospital, Van Nuys, California. His next assignment was Chief of Professional Service and Chief of Medical Service, 220th General Hospital, Ft. Lewis, Washington with the rank of Lieutenant Colonel. This hospital moved to France in 1945 and was set up near Rheims in the town of Snippes where it did a large part of the care of returning prisoners of war.

At Snippes it was noticed that a miracle frequently occurred at the chief's morning mess—*fresh* eggs were served. The source of the miracle proved to

lie in the chief's own versatility. Armed with a knowledge of the French language he used his spare time hiking about the countryside cheerily accosting each inhabitant with the query, "Peut-on acheter des oeufs." It will surprise no one that the French farmers found the American colonel's charm irresistible.

With the disbanding of his hospital in the fall of 1945, Doctor Blair returned home to civilian life. For a time he worked with the Committee for Studying Child Health Services, headed by Doctor Blair's long-time friend Doctor John Hubbard.

At this time the Children's Hospital, an institution dear to the hearts of all Washingtonians, was on the verge of a much needed rebuilding program. The administrators were faced with a gigantic task including such problems as the judicious selection of plans for new buildings, the raising of funds through public subscription, and the carrying on of the hospital's work in the midst of constructing new units and renovating the old. That there should appear on the scene an esteemed native pediatrician fresh from four years experience in hospital administration, was fortuitous beyond belief. On January 1, 1947 Doctor Blair was appointed to the newly created job of Medical Director. Onto his shoulders were shifted these burdens and many others.

At the time of his resignation, seven and a half years later, an efficiently planned hospital was in full operation. The administrative offices were running smoothly with well chosen personnel, all devoted to their boss. Included here were newly created Private Admitting and Public Relations Offices and a Secretarial Service for the operating room.

Of particular interest to Doctor Blair was the Research Foundation which was expanded under his nurture. Through his influence, a number of young men were encouraged to engage in worthwhile investigative projects. To staff pediatricians he lent a prompt and attentive ear; to nursing supervisors he was a pillar of strength. Finally, as a counselor to and friend of a host of resident physicians he will be remembered always with affection and gratitude. The Children's Hospital misses him; we wish him Godspeed and a continuously useful life.

SPINAL FLUID FINDINGS IN DIARRHEA: A CLINICAL STUDY

Anthony DiSpirito, M.D.

Acute "toxicosis" in diarrhea has been observed by many clinicians. In addition to such constant findings as fever, dehydration and acidosis, many physicians have noted lethargy, irritability, coma and convulsions, or a clinical picture resembling that of meningitis or encephalitis.

On the diarrhea service at Children's Hospital, an elevation of the cerebrospinal fluid cell count, protein or sugar has occasionally been noted in a patient admitted for diarrhea but in whom central nervous system disease was also suspected. The interpretation of such findings has frequently been difficult. It was therefore felt that a study of cerebrospinal fluid findings in randomly selected patients with diarrhea might be of clinical value to a pediatrician who encounters similar difficulties.

METHOD

The patients under study included all admissions to the diarrhea ward other than private patients.

At the time of admission, blood was drawn for determination of the carbon dioxide combining power, a complete blood count and other indicated blood chemistries. Spinal puncture was performed at this time. All cerebrospinal fluid samples which contained gross blood or which were later discovered to have red cells, were discarded from the study. Stool cultures were done on SS agar and placed in tetrathionate broth on admission. These were repeated on the 4th and 7th day when indicated. A complete urinalysis was performed on admission. Other laboratory procedures were used as indicated.

Following the spinal puncture, cerebrospinal fluid was immediately sent to the laboratory, where cell counts and proteins were determined on 37 specimens and sugar on 24 fluids. The cell counts were done by the technician on the Fush's-Rosenthal chamber and proteins were determined by using the Exton reagent. Sugars were done by means of the Folin-Wu method.

All patients with two exceptions were negroes and ranged from one month of age to five years. Most of the children were under two years of age.

RESULTS

Of the 37 Spinal Fluids examined only two had more than ten cells (Table I). One of these patients was discovered to have meningitis; the spinal fluid of the other had a cell count of 21 of which 70% were lymphocytes. This child's spinal fluid had returned to normal three days later. The latter patient was only mildly ill on admission and the discharge diagnosis was that of parenteral diarrhea. If 0–10 cells per cubic mm. is considered normal, and spinal fluid from the patient with meningitis is eliminated; it will be noted that only one patient or 3% had an abnormal cell count (Table II).

The protein was within normal range, i.e. 15–40 mgm %, in 28 of the patients. Protein determinations were abnormal in eight spinal fluids excluding the child with meningitis, whose results will be eliminated from subsequent discussion. Seven of the eight abnormal proteins were in the

TABLE I

Cerebrospinal Fluid

Pt.	Etiology	Cell Count	Protein mgm %	Sugar mgm %	Severity of Illness
CC	Shigella	7	42		moderate
KP	Undiagnosed	7	51		moderate
DR	Parenteral	3	31		severe
TC	Shigella	6	15		moderate
WB	Shigella	4	15		mild
JT	Shigella	6	23		mild
BL	Parenteral	2	15	50	mild
GC	Shigella	3	15		moderate
GM	Undiagnosed	4	38		moderate
LH	Parenteral	4	20	87	severe
HM	Undiagnosed	2	15	78	severe
LB	Shigella	3	15	45	mild
RH	Parenteral	8	44	128	mild
JB	Shigella	2	35	65	moderate
SW	Parenteral	6	24	75	mild
AS	Parenteral	0	87	105	severe
CW	Undiagnosed	6	28	55	severe
EB	Undiagnosed	7	44	60	moderate
JH	Shigella	0	24		mild
GT	Shigella	1	16	75	mild
JT	Parenteral	21	16	80	mild
GR	Shigella	3	15	100	moderate
AB	Undiagnosed	0	18	88	moderate
DD	Shigella	1	18	115	moderate
AR	Parenteral	1	17		moderate
AS	Undiagnosed	3	25	72	moderate
IP	Undiagnosed	4	30	90	moderate
DN	Undiagnosed	4	52		severe
TM	Undiagnosed	3	22		moderate
JJ	Undiagnosed	3	18	70	moderate
CR	Meningitis	1960	124	12	moderate
LH	Parenteral	4	32	75	severe
LM	Parenteral	3	24	75	moderate
CS	Parenteral	3	16	16	moderate
VL	Parenteral	1	10		mild
CW	Parenteral	4	60	101	moderate
CS	Undiagnosed	2	17	14	severe

range of 41–60 mgm %. The one protein elevation over 60 mgm % was 87 mgm % in a patient with a severe parenteral infection, in which case there were no cells in the spinal fluid and the sugar was elevated to 105 mgm % (Table III).

Of 24 sugar determinations only 14 were within the normal range of

TABLE II

Cells per cu. mm.	No of Patients	Percentage of Patients
0–5	27	75
6–10	8	22
11–50	1	3

TABLE III

Protein mgm %	No. of Patients	Percentage of Patients
15–40	28	78
41–60	7	19
over 60	1	3

TABLE IV

Sugar mgm %	No. of Patients	Percentage of Patients
Under 45	1	4
45–80	14	62
81–100	4	17
over 100	4	17

TABLE V

Severity of Illness

Cell Count	Severe	Moderate	Mild
0–5	7	14	6
6–10	1	4	3
11–50			1
Protein mgm%			
15–40	6	14	9
41–60	1	4	1
over 60	1		
Sugar mgm%			
under 45	0	1	0
45–80	4	5	5
81–100	1	3	0
over 100	1	2	1

45–80 mgm %. Therefore 38 % of the sugar determinations were abnormal. One spinal fluid sugar was below 45 mgm % and eight were above 80 mgm % Four of these latter eight were over 100 mgm %, the highest being 128 % (Table IV).

TABLE VI

Cell Count cubic mm.	Shigella	Parenteral	Undiagnosed
0–5	8	10	9
6–10	3	2	3
11–50		1	
Protein mgm%			
15–40	10	9	9
41–60	1	3	3
over 60		1	
Sugar mgm%			
under 45		1	
45–80	3	5	6
81–100	1	1	2
over 100	1	3	

An attempt was made to correlate abnormal cell count, protein or sugar with the severity of the illness, as determined by the clinical evaluation of the patient and laboratory data on admission. It will be seen from Table V that there is no correlation between the abnormal findings and the severity of the illness. Similarly, an attempt was made to correlate abnormal findings with the discharge diagnosis. (Table VI) In 11 patients the discharge diagnosis was Shigellosis; in 13 patients diarrhea following a parenteral infection was the final diagnosis; and in 12 patients the diarrhea was due to an undiagnosed cause.

DISCUSSION

The origin of the spinal fluid has engaged the attention of physiologists and clinicians for many years. In 1880 Schmidt was the first to voice the opinion that the cerebrospinal fluid was a secretion and not merely a transudate. However, it remained for Flexner to indicate that spinal fluid is not formed by simple diffusion but that an excretory and absorptive mechanism is present inside the ventricles. In this way a balance is obtained between the spinal fluid and the blood. The permability of the barrier between the spinal fluid and blood is increased in certain diseases of the central nervous system, especially in meningitis and other inflammatory conditions, possibly also in diarrhea and dehydration.

Hallam and Tahka reported a series of 211 spinal punctures in patients admitted to the hospital for diarrhea. In 81 or 38% of the spinal fluids the cell count was over 10 cells. In fact, the cell count was over 100 cells in 11 fluids or 5% of their total. In these patients Hallam and Tahka were able to postulate no disease other than a parenteral infection, infectious diar-

rhea or that due to unknown etiology. On the other hand Choremis and his workers stated that in their series of 23 patients with diarrhea, the cell counts and protein were within normal range at all times. However, they gave no figures to support their study having been more interested in reporting electrolyte changes. Choremis found an abnormal sugar content in 16 or 70% of the 23 spinal fluids. Our findings would appear to fall somewhere between these two reports. We were able to demonstrate major changes in the protein and sugar content. Twenty-two per cent of the protein determinations were abnormal as were thirty-eight per cent of the sugar determinations.

Kraemer has said that in diarrhea produced by Shigella, pleocytosis is found to occur in more cases than in those of parenteral diarrhea or of diarrhea due to unknown etiology. This is not borne out by our findings.

In conclusion, diarrhea is not just a manifestation of gastrointestinal disease. On occasion, one can demonstrate changes in the protein and sugar content of the spinal fluid of patients with diarrhea. The clinician should be aware of the possibility of such changes so as not to attribute them necessarily to another disease process.

SUMMARY

Thirty-seven children were submitted to spinal puncture on admission to the diarrhea ward of Children's Hospital. Abnormal cerebrospinal protein occurred in 22% and abnormal sugar in 38% of these patients.

BIBLIOGRAPHY

CHOREMIS, C.: CSF Changes In Toxicosis Due To Infantile Diarrhea, Annales Paed. **177:** 77, 1951.

HALLMAN, N. AND TAHKA, H.: Observations on the CSF in Infantile Diarrhea, Acta Ped. **41:** 437, 1952.

HOLT, L. E. AND MCINTOSH, R.: Pediatrics, 12th ed., Appleton-Century, 1953.

LEVINSON, A.: Cerebro-Spinal Fluid In Children, Am. J. Dis. Child. **36:** 797, 1928.

MERRITT, H. H. AND FREMONT-SMITH, F.: The Cerebrospinal Fluid, W. B. Saunders, Philadelphia, Pennsylvania, 1937.

WECHSLER, I. S.: A Textbook of Clinical Neurology, 4th ed., W. B. Saunders, Philadelphia, Pennsylvania, 1939.

ADOPTION PRACTICES AND PROCEDURES

M. T. McGehee, Jr., M. D.

"Doctor, my husband and I want to adopt a baby". What should be the physician's answer for the couple? It will be the purpose of this paper to:

1. Outline the adoption practices and laws now in effect throughout the country.

2. Perhaps to enable the practicing physician who is asked the above question to assist his patient in obtaining a child through the proper and legal channels.

3. To point out certain problems with our present day adoption laws.

In the early days of this country, before the establishment of Boards of Public Welfare and various other Social Service Agencies, the obtaining of a child for adoption was comparatively easy. One would go to an orphanage (usually run by a church) and request a child. A person would as it were "pick out" the child he wanted to take home. In some states there were laws that required the court to make the "transaction" legal by turning over guardianship of the child to the adopting parent. However, this practice has virtually been eliminated in all of the states because those people interested in child welfare began to consider the child in these "transactions": what was best for the child; was he taken in only to do work; did he really get a home or was he only taken in to fill in a gap in the household? Finally with the greater interest in child welfare as well as public welfare, various states began to pass specific laws concerning the working of children and the adoption of children so that the child, who is a human being, could also profit by the adoption.

In order to illustrate today's methods of adoption, I would like to present a hypothetical case of a couple wishing to adopt a child and what methods and facilities are now available. I shall call this couple Mr. and Mrs. Kelly.

First, both parties have found that after years of marriage their home is childless and both of them want a child. Mrs. Kelly goes to her personal physician and after many tests she finds that she is unable to have children; Mr. Kelly also finds that he is sterile. So, now they desire to adopt a child. They may do one of five things:

I. They can go to their physician and ask his advice. Now, if it so happens that the physician is not familiar with the law, he might tell them he knows of an un-wed mother who wished to "get rid" of her child and he may suggest that the Kellys see this mother. THIS IS ILLEGAL. As the courts see it, the adopting parents might put undue pressure on the mother and she would give up her child, when really she did not want to part with her baby.

The physician may tell the Kellys that he will keep them in mind and if he hears of a child that is up for adoption he will send the baby's mother to see them. THIS IS LEGAL. The physician can tell the mother (if she asks) that he knows of a family who wishes to adopt a baby and that if she wishes she may see the interested couple. The court holds that if the mother goes of her own free will to the adopting couple, undue pressure is not being placed on her to give up her child.

Now supposing the doctor sends the mother to the Kellys and an agreement is made by the two parties. Legally the mother turns (or signs) her baby over to the Kellys and then the Kellys must file adoption papers. The papers are filed with the court to legally adopt said child. In various states the next procedure differs. However, in the District of Columbia, the court sends a summons to the Department of Public Welfare to investigate the Kellys and return a report to the court as to whether the Department of Public Welfare approves the adoption. At the end of six months (meantime the child may be in the adopting home) the case is brought to the judge and with all the papers signed and on approval of the Department of Public Welfare the final adoption takes place making the Kellys the legal parents of the child.

It must be remembered that all states do not have the same laws, in that the Department of Public Welfare Agency might not be called in to investigate the adopting parents. However, more and more states are adopting this practice for they feel that both the child and the adopting parents will profit by it.

II. The physician might send the Kellys to a licensed child-placing agency, which is usually some church-supported home, a private home, or a state-supported agency. In 1944 the Baby Broker Law was passed, stating that only licensed agencies had the right to put children up for adoption other than the mother of the child or a relative within the third degree, if the mother is not alive.

If the Kellys went to a state-supported agency, they would be interviewed by a specially trained social worker who would try to find out why they wished to adopt a child: what type of people are they; what type child they want; do they want a boy or a girl; do they want an infant or an older child. The type child they want will account for the time it takes to find the right child for them. For example, if the Kellys don't care if the child is male or female so long as he is above two years of age, their chances of finding a child right away would be excellent. There are many children in the older age group waiting for adoption. Some of the points which the agency takes into consideration are:

A. Religion: The agency always tries to place a child in a home whose religion is the same as that of the child.

B. Age of Adopting Parents: The agency always tries to place a child in a home where the age of the adopting parents will be as if the child were their own. If the adopting mother is thirty-five or forty years old then an older child could be adopted (ten or twelve years old.) However, an infant never could be.

C. Financial Status: The agency must know if the couple is able to support the child. Do they have the means to send the child to school and college, if he desires to go, etc.

D. Plans for the child: Will the adopting parents want the child to go to college; Will they want him to be a 'football player'.

E. Occupation of the Father: Is he a traveling salesman; Does he have a dangerous occupation; Does he spend a lot of time in his home etc.

With these things in mind, the agency is looking out for the interest of the child as well as for the adopting parents, for they would not want to place a frail child in the home where the father wanted 'his son' to play football or to put a Jewish boy in a Catholic home. One can easily see the conflicts which would arise leading to an unhappy life for the child as well as the parents. The agencies are striving to place the child in an atmosphere as close to that of his natural parents as possible. With these points in mind the proceedings continue with the Kellys. The Kellys are given an application to fill out and a case file is started. All material is confidential. A Home Study is started where the Social Worker calls on the parents-to-be at their home, to 'get acquainted' with the family. If this proves satisfactory, and a child is available who will fit into the home, the child is placed in the home for a trial adoption period of not less than six months (six months in the District of Columbia and one year in other states). During this time a minimum of three house visits are made by Social Workers to see if things are going along well and to help the adopting parents with any problems. The adopting parents are told only pertinent facts concerning the child; such as, any sicknesses he has had, where he was born, etc. The adopting parent never meets the mother of the child.

After the six month's waiting period, if all has gone well, the final decree of adoption takes place and the adopting parents become legal parents of the child—the child is then entitled to all privileges of a natural born child. I have stressed the points for the child's protectoin but what protection do the adopting parents have? The agency sees to it that the child is normal in every respect. A complete physical examination as well as a mental test is given to determine the ability and potentialities of the child. The reason the trial adoption period is six months or longer is that it gives both the child and the adopting parents as well as the agency a chance to see if the child is going to develop normally and this cannot usually be told until after three to six months of age.

III. Our parents, the Kellys, may not want to wait for such a long time to

get a child or they may know someone who can get them a child for a 'small fee'. This is what is known as "Black Market Babies." Usually they are children of un-wed mothers in distress who are anxious to get rid of their child quickly. These mothers may go to a doctor, a lawyer, or any other individual, who then contacts persons (or knows of people like the Kellys) and offers them a child for a 'small fee'. This so-called 'small fee' has been known to range from $50 to $10,000, depending on what they can get. A great deal of this sort of thing happened during the war years when the number of illegitimate children increased tremendously. This is illegal and persons involved are subject either to fines or imprisonment. One can easily see where this practice is not only ruthless in the sense of a person actually selling a human being, but it may be and usually is detrimental to both the child and to the adopting parents. Under such arrangements:

A. Adopting parents may tire of the child and pass him on to someone else, or may not be able to provide for the child, or they may be unfit to raise the child.

B. The child may be mentally retarded or have some defect unknown to the adopting parents.

C. The natural mother may find that she wants the child back and the adopting parents could be forced to give up the child, if the adoption does not go through the proper legal channels.

These are only a few of the unfortunate consequences that may result from such a practice as 'buying babies', not to mention the emotional trauma which the child may have to undergo during this important period of his life.

IV. There is one other place that the Kellys may seek to adopt a child and that is in a foreign country. World War II left many European children homeless and wards of the state. These children may be adopted. First they must be adopted in the country where they are found and when they are brought to the States they must be re-adopted in this country. The second adoption is more or less a formality in that the original adoption papers are checked to make sure that they comply with the laws of said country. The final decree is issued by the United States Courts making the adoption legal in this country and the baby a citizen of America.

V. Mr. and Mrs. Kelly may wish to open their home for the care of a child, but not with the intention of adopting him. This is the so-called foster home where a number of children are placed by the Welfare Agency or by the mother. Here the agency usually places children not legally or socially eligible for adoption. By this is meant—legal consent as outlined by law has not been obtained; the child is socially in-

eligible because the child's background is not free from mental defect or from some disease that might be transmittable and that his physical or mental development is not normal. Agencies that handle such children are not interested in finding adoption homes, but foster homes for these children. Financial aid is usually given the foster home for the support of the child. Often such children are taken into a foster home and the parents grow to love the child and wish to adopt the child even though they are aware of the handicaps. This can be arranged through legal channels. Although, much progress has been made in the past twenty years concerning adoptions, there are still many things to be done to correct our present system. One of the big problems is the fact that our adoption laws vary not only from state to state but also from county to county within the state. Standard laws should be established for all states to protect both the child, the natural mother, and the adopting parents. In the year 1949 the Federal Security Agency, Social Security Administration Children's Bureau published a pamphlet entitled "Essentials of Adoption Laws and Procedures" which makes the following recommendations regarding the establishment of standard adoption laws and procedures:

A. The adoption hearing should be held before a court accustomed to handling children's cases and in the locality or state where the petitioners reside and are known.
B. The court should have the benefit of study and recommendations by the State Welfare Department in every proposed adoption.
C. Consent for adoption should be obtained from the natural parents, or if their parental rights have been legally relinquished or terminated, from a person or agency having the legal responsibility for the child and the right to consent to the adoption.
D. Court hearings should always be closed.
E. There should be a period of one year in the adoption home before the final decree is issued.
F. There should be provisions made to remove the child from an unsuitable home.

National laws of this type would solve many of the now existing problems concerning adoptions and could result in untold advantages to both the child and to the adopting parents.

One of the greatest faults in the adoptions of today is the long delay in obtaining a child. The prospective parents forget that they are dealing with human beings at a time when a home means most to a child. It concerns the child's emotional development, his physical well-being, not to mention his future. Someone has to see that the prospective home for the homeless child will offer him a good environment as well as a chance to be a normal

individual. It is the duty of those concerned to see that the child has the opportunity to develop his personality and ability to the fullest extent. It takes a great deal of investigation to discover if the adopting family has the correct background for the child or if he will be as nearly as possible like the adopting family in looks as well as in intelligence. For example, it would be heart-breaking for most college graduates to adopt a child whose I.Q. showed he would, in all probability, only be able to complete high school. All of these factors must be taken into consideration.

Another reason for the delay in adoptions is the investigations of the prospective parents. This job calls for highly trained persons skilled in their jobs of judging who should or should not have an adopted child. If their decisions are wrong, it could prove disastrous not only to the adopting parents, but also to the child. These skilled workers can and do receive high salaries and since in any nonprofitable organization funds are limited, the personnel is limited, also. Under-staffing of skilled and trained workers further delays the adoption.

Financially, most of these agencies are either church or state supported with a few privately owned homes. There is no financial transaction concerning the adoption of a child. There is no charge for the past support of the child in the home. Usually the only cost involved is the fee for the lawyer who will make out the adoption papers and file them with the proper courts.

The physician, it must be remembered, has a definite role in this great problem. He is the person who will be called upon to examine the child's physical as well as mental health. His concern is of great value to both the child and to the adopting parents. He must be always aware of the 'pit falls' of being involved as a third party in so-called 'fast adoptions'—even though he is trying to help some childless couple or some un-wed mother and not looking for personal gain. If physicians are familiar with all licensed adoption agencies and orphanage homes in his locale, he may better guide his patient in the right direction so that all concerned may be benefited.

OUTLINE OF ADOPTION PRACTICES AND PROCEDURES

A. Introduction: The interest of Department of Public Welfare and Social Service agencies in the adoptable child.
B. Present day methods of adoption—Legal and Illegal.
   I. a. Physician sends prospective parents to un-wed mother. This is illegal.
      b. Physician sends un-wed mother to prospective parents. This is legal.
   II. Licensed Child-placing Agencies.
      a. Church-supported.
      b. State-supported.

c. Privately operated.
d. Procedures involved in adoption.
III. "Black Market Babies".
IV. Foreign Adoptions.

C. Faults with our present day adoption laws and practices and suggestions for eliminating such faults.
D. Why the long wait for prospective parents to adopt a child and the reasons behind such a wait.
E. Financial status of agency. Who supports the agencies.
F. The physician's role in adoptions.

BIBLIOGRAPHY

1. Gesell and Amatruda: Clinical Aspects of Child Adoption. Developmental Diagnosis Chapter XVIII: 328; 1951.
2. Adoption Abuses: Editorial Journal American Medical Association, July, 1945.
3. An Act to regulate the placing of children in family homes, and for other purposes. Public Law #292, 78th Congress, Chapter 174, 2nd Session.
4. Essentials of Adoption Law and Procedure: Federal Security Agency, Social Service Administration, Childrens' Bureau Publication #331, 1949.
5. Adoption: United States Department of Labor. Childrens' Bureau Folder 13, 1938.
6. When You Adopt a Child. Federal Security Agency, Social Service Administration, Childrens' Bureau Folder 13, 1947.
7. Morlock, Maud: Adoption. Social Service Digest **11:** March 1947.
8. Wolkomir, Belle. They Are Adoptable, Social Service Digest **11:** March 1947.
9. Why You Can't Adopt a Baby, Readers Digest, Sept. 1948.
10. DeBlois, Frand and Terry, Faith. Adoption. Parade, Jan. 23, 1949.
11. Personal Interview with Mrs. I. Thompson, Public Welfare Office.

RUPTURED APPENDIX WITH INTESTINAL OBSTRUCTION

Thomas J. Fraher*

Appendicitis may be attended with extreme morbidity and mortality even in the presence of modern adjunctive therapy. The following case is presented as a good illustration.

CASE REPORT

N. P., a three year old white female was admitted to Children's Hospital on 5/31/54 for non-localized intermittent abdominal pain of almost daily incidence and persistant vomiting. These complaints of a month's duration followed the repair of an umbilical hernia at another hospital. Prior to her herniorrhaphy the patient experienced chronic constipation and abdominal pain. On admission to this hospital, the child had the signs and symptoms of intestinal obstruction in addition to a

* Class of 1955, School of Medicine, Georgetown University.

palpable mass in the right lower abdominal quadrant. At laparotomy in this hospital a necrotic appendix with an inflammatory mass was found. The appendix and numerous adhersions were excised. The post-operative course included signs of intestinal obstruction and of toxicity manifested by fever reaching 105°F. A fecal fistula developed at the lower end of the incision. Because it was suspected that a subphrenic abscess had developed, a laparotomy was attempted. The peritoneal cavity was a mass of dense adhesions. The abdomen was closed without definitive surgery. The child was given supportive care which included massive antibiotics. She was discharged on 8/30/54, afebrile, with good appetite and improving general health.

Readmission to the surgical service on 10/13/54 was based on the following developments: poorly localized intermittent abdominal pain and anorexia which started shortly after discharge. Repeated vomiting episodes progressed to the emesis of all solid and liquid foods taken on the four days prior to this admission. At this time the girl was poorly nourished and strong fecal odor was noted. The abdomen was distended, and somewhat tense with a marked venous pattern over the anterior wall and lower thoracic cage. No masses or tenderness were present. The percussion note was tympanitic. The scars of previous surgery and a draining fecal fistula were present.

During this hospitalization the patient was afebrile, except for terminal stage of illness. Her hemoglobin averaged 11 grams. Peripheral blood leucocytes increased from 11,000 on admission to 16,000/cu.mm. four days before death. The urine was repeatedly cloudy and slightly increased amounts of albumen were consistently present. Fifteen to thirty leucocytes per high-power-field were found on two occasions. On liquid diet, parenteral therapy, daily enemas and Wangensteen suction with Miller-Abbot tube, the patient had no further distention or vomiting, and maintained good bowel sounds. On the ninth hospital day 5–6 vomiting episodes occurred and there was some increase in abdominal distention. These were relieved by the use of a new suction machine. On the eleventh hospital day vomiting occurred with the onset of cramping abdominal pain associated with peristaltic rushes. These persisted until the child was taken to surgery on the seventeenth day following admission. An exploratory laparotomy was performed with resection of the terminal ileum and cecum and anastomosis of the ileum to the ascending colon. The following day the patient developed shallow rapid respiration and thready pulse. Coma ensued. Blood transfusions, nasal oxygen, artificial respiration and intracardiac adrenalin were fruitless and the patient quietly expired.

DISCUSSION

This case is illustrative of many of the problems of appendicitis and its sequelae in children. The difficulty in diagnosis is of chronologically prime importance and is increased inversely with the age of the patient. Acute appendicitis is not the most frequent cause of an acute condition in the abdomen in infants as it is in the case of older children. It is for this reason acute appendicitis often masquerades as gastro-enteritis or respiratory infection until actual perforation occurs. The signs and symptoms as well as being atypical frequently are most difficult to assess, e.g., the nature and the location of pain and tenderness. As a result of this poor localization there may be delay in diagnosis. Chaffin collected cases reported under the age of two years and found that 71 per cent had perforated with peritonitis

or abscess by the time the diagnosis was made. In 67 per cent of the cases of this author, the diagnosis was not made until three days or more after the onset of symptoms. Benson and his associates studied 14 cases of acute appendicitis in infants under the age of 24 months and found 33.3 per cent with perforation and 48.7 per cent with abscess. Despite this incidence the mortality is not high. In a study of 823 cases of acute appendicitis in children over a sixteen year period, McLanahan reported only two deaths. The mortality rate in a series of 111 cases of ruptured appendices in children was found by the same author to be 0.9 per cent. Thus it may be concluded that although there has been relatively little decrease in the incidence of peritonitis in pediatrics there has been great advancement in therapy.

Although this case illustrates the complication of adhesions with resultant intestinal obstruction it demonstrates also the formation of fistulous tracts and sinuses. In this case the sinus developed from the intestine to the lower part of the abdominal incision following the removal of the ruptured appendix from the adjacent inflammatory mass. Fecal fistulae from an open appendiceal stump are not uncommon since the base of the appendix is often so necrotic that the cecal wall can not be repaired satisfactorily. There occurs wound infection and foul fecal discharge as in this patient, but since drainage has almost always been established in these cases life is not threatened. When an abscess wall includes part of the rectum, cecum, sigmoid, renal pelvis, urinary bladder, ureter or vagina, fistulae into these organs may develop.

Intestinal obstruction following appendicitis may be of two types, paralytic and mechanical. The former if severe and persistent is usually the result of a diffuse process of peritonitis. It is not at all rare as a transient phenomenon immediately following the operation, particularly when a local area of peritonitis is present and when the surgery is difficult.

Mechanical obstruction which was ultimately the cause of death in this case is unusual. It may occur at two periods following an operation for appendicitis. Early obstruction which was ultimately the cause of death in this case is unusual. Early obstruction may occur from a few days to two weeks when intestinal loops are matted together in a plastic fibrinous exudate. In this form no attempt should be made to explore the abdomen, for in doing so there is a high risk of spreading the infection. Most patients will get through the critical period by the use of constant suction of the stomach and intestines. When the intestines are deflated the fibrinous peritoneal exudate will usually liquefy, disappear within four or five days, then normal peristaltic function returns and the intestines will be released. Such was not the happy outcome of continuous Wangensteen drainage in this patient in whom the adhesions were not of so transient a nature.

Late obstruction occurs after several months or years, when a firm, fibrous

band compresses or strangulates an intestinal loop. These bands represent the stretching of a scar between two peritoneal surfaces. It may be said in general that the conditions which usually give rise to this sort of lesion are most likely to be present in the right lower quadrant, i.e., the right iliac fossa, and pelvis. In such cases there is high probability that ischemia and gangrene of an incarcerated loop will supervene if prompt and adequate relief is not given. A few of these patients can be decompressed by adequate intestinal intubation as was done in this case, but the vast majority of these cases should be explored so that adhesions can be severed, the intestinal loops released and whenever necessary gangrenous loops excised.

Three other complications of acute appendicitis may be mentioned. The most frequent is a residual abscess from areas of peritonitis, or less often, areas infected after surgery is completed. Secondary hemorrhage may occur and may be from the deep epigastric vessels which are often exposed at the lower end of the right rectus incision. A rare but very dangerous complication is phlebitis. Infected emboli may become detached and carried to the liver where single or multiple abscesses develop. Occasionally an embolus may travel along a systemic vein to the lung and produce pneumonia, infarction or fatal pulmonary embolus.

REFERENCES

HILL, J., BUTCHER, R.: The Mortality of Acute Appendicitis Treated Surgically in a Small General Hospital, Mo. M. J., **50: 5**, 1953.

HOMANS, J.: A Textbook of Surgery, Charles C. Thomas, Publisher, Springfield, Illinois, 6th ed., 1948.

GROSS, R. E.: The Surgery of Infancy and Childhood, W. B. Saunders Co., Philadelphia, 1953.

MCLANAHAN, S.: Further Reductions in the Mortality of Acute Appendicitis in Children Ann. Surg., 131: 853, 1950.

SERINO, GIRARD S.: Appendiceal Peritonitis, Am. Surgeon, 19: 11, 1953.

ERYTHEMA MULTIFORME EXUDATIVUM (STEVENS-JOHNSON SYNDROME)

Max J. Fischer, M.D.
W. P. Fisher*

The following case is presented as a probable example of erythema multiforme exudativum in a child.

J. S., a nine year old white male was admitted to Children's Hospital on 10/20/54 with a chief complaint of "blisters on the lower lip" of six days duration.

Approximately a week before the onset of the above complaint, a sparse papular

* Senior Medical Student-Georgetown University

rash appeared on the extremities and trunk. No particular details of distribution or order of appearance were recalled. The papules had an erythematous base, mildly pruritic, and progressed slowly to vesicle formation. Six days before admission, a raised, slightly pruritic vesicle filled with clear fluid appeared on the central portion of the lower lip. This became rapidly larger and drained; the subsequent scab was inadvertently knocked off and the base bled profusely. Gentian violet was applied. One day prior to admission, the child awoke with a diffuse, dull, aching pain in the entire right lower extremity. This was promptly relieved after the use of aspirin, an alcohol rub, and a heating pad. At the same time, two more vesicles were noted on the lower lip adjacent to the original lesion, and the child complained of having a sore mouth. On the day of admision fever of 101°F and "sore throat" prompted a visit to a physician, who advised hospitalization.

This child had had three previous episodes of vesicular eruptions about the lips, the last one requiring hospitalization in October, 1953 when a diagnosis of herpes simplex stomatitis was made. These lesions cleared in three to seven days with local treatment; generalized skin rash at that time was not noted. He had also had frequent sore throats, conjunctivitis, chalazions, and furuncles. In early infancy the patient developed a "spasmodic stomach" and was placed on Mulsoy and phenobarbital until eight months of age, when regular milk was substituted without difficulty. The only common childhood disease contracted was varicella at age two years. He had received the routine DPT immunizations, and had been vaccinated. The patient is the last of six siblings, one of whom has asthma. His father has a peptic ulcer.

At the time of his admission he was well-developed, slim and pale with a temperature of 102.2°F, pulse of 95 and respirations 25. The skin was marked by twenty to thirty, dry, papular, crusted lesions on an erythematous base approximately 1 cm. in diameter. These lesions were scattered over the extremities and trunk, were slightly more numerous on the dorsum of the hands, but absent from the palms, soles, face and scalp. All were in about the same stage of development. There was injection of the left conjunctiva and sclera, with a small swelling at the inner canthus of the left orbital fissure. There was less marked inflammation of the same structures of the right eye, and minimal periorbital edema bilaterally. The nasal mucous membrane was hyperemic; the tip of the septum swollen and tender. The lower lip had a large central crust on either side of which was a large vesicle filled with clear fluid. A few smaller vesicles were present on the upper lip also. The breath was foul; the gums were soft and red but did not bleed easily. There were several small, greyish-white, flat ulcerations on the gums and buccal mucosa. The tonsils and pharynx were markedly inflammed, and there were a few 1-cm., firm, non-tender, movable anterior and posterior cervical lymph nodes bilaterally. There was a grade 1 soft blowing apical systolic murmur. The physical findings were otherwise normal.

On admission, the patient had a hemoglobin of 13.8 grams, hematocrit 41%, 10,500 leucocytes with 78 segmented neutrophils, 4 bands, 15 lymphocytes, 2 monocytes, and 1 eosinophil. Urinalysis was normal.

Herpes simplex virus was not recovered from the saliva, eye or skin of this patient by suckling mouse inoculation. Bacterial and fungus cultures showed no significant pathogens.

DISCUSSION

Until relatively recently, erythema multiforme exudativum was seldom recognized in hospital or private practice. This is probably due to the very confusing multiplicity of names by which the disease is known. The malady

was first described in 1850 by von Hebra in England. In 1862 Bazin described lesions of the mouth associated with constitutional symptoms and conjunctivitis. In 1922, Stevens and Johnson in reporting their "eruptive fever" stressed as diagnostic features: a generalized maculo-papular eruption, ulcerative stomatitis, conjunctivitis, and fever. Later, Klauder added genital ulcers, urethritis, and an acute onset to make the syndrome "ectodermosis erosiva pluriorificara". Many other names have been used, but a careful study of all the reported cases reveals the basic similarity, and strongly suggests that they are all variants of erythema multiforme exudativum.

Erythema multiforme exudativum has been described as an acute inflammatory disease of the skin with constitutional symptoms compatible with acute infection. The eruption may be erythematopapular, vesicular, bullous or combinations of these types. It usually starts as macules or papules on the dorsum of the hands or feet and spreads centripetally. At the height of the fever, lesions tend to be generalized. Pustules may occur due to secondary infection.

Extensive bacteriologic, serologic, pathologic, and viral studies have failed to reveal a specific etiologic agent. Cases have been reported following many types of viral and bacterial infections, after the use of a wide variety of drugs, ingestion of certain foods, and even after exposure to sick dogs. One report has suggested a possible infection with a psittacosis-like virus. The most likely theory is that the disease represents an allergic response which may be elicited by a variety of allergens.

In a report of 15 cases, Bellow and Lowens noted that:

1. 100% of the patients presented a general toxic appearance
2. 66% had conjunctivitis of some type
3. 85% had lesions on the lips; vesicles or ulcers on an erythematous base, often crusted before the first visit
4. 92% had lesions on the genitalia, or urethritis
5. 92% had vesicular or ulcerative lesions on the palate, tongue, pharynx, or buccal mucous membrane
6. 100% had a skin rash, usually maculo-papular, vesiculo-bullous, or rarely hemorrhagic. The rash was generalized in almost all cases, but never on the scalp.

The authors considered the presence of any four of these features strongly suggestive of the diagnosis; five was considered sufficient for positive identity of the syndrome. They mentioned four other frequent findings: pneumonitis of some degree (80%), sore throat, malaise, and bone and joint pain.

Lever states that when there is involvement of the mucous membranes, the eruption is commonly vesicular or bullous. Any of all the mucous membranes may be involved. Oral lesions are vesicular from the onset and

erosion develops quickly. There is extensive swelling of the lips, gums, and tongue; lesions on the glans penis may produce adhesions. Dyspnea and stridor result from edema of the larynx. Involvement of the tracheobronchial mucosa may lead to bronchopneumonia. Duke-Elder describes three types of conjunctivitis that may occur: a catarrhal type which heals in a few weeks; a purulent type which can cause panophthalmitis and blindness; and pseudomembranous type with corneal involvement and symblepharon. The mucosal lesions are responsible for the acute emergencies which arise in the syndrome, but usually heal without scarring. Deaths are usually due to atypical pneumonia or to extensive secondary infection. The pathology of the skin lesions is confined to the papillary layer of the cutis.

The course of the disease ranges from a few mild weeks to prolonged periods of severe eruptions, fever to 105°, and prostration. Arthralgia, vomiting, salivation, and albuminuria may occur. Constitutional symptoms are generally proportional to the extent of mucous membrane involvement. The average course is two to five weeks, and recovery usually occurs even without treatment. There is no evidence that it is a communicable disease. It has a predilection for male children, and most cases occur in the spring and fall.

Therapy is symptomatic and supportive unless some focus of infection or possible allergen is located. Bland diet and dermatologic preparations suitable for the stage of the eruption are usually sufficient for uncomplicated mild cases. Antibiotics are indicated in the presence of secondary infection, or with extensive mucous membrane lesions to prevent that complication. Results of attempts to evaluate efficacy of various antibiotics have been conflicting and inconsistent; it has been concluded that no single agent is generally effective, but any one of the drugs may be useful in a particular case, depending on the etiology and presence of complications. In severe cases, cortisone parenterally or locally has often been dramatically effective. If used, ACTH or cortisone should be continued for at least a week to prevent rapid relapse or recurrence.

Diseases to be considered in the differential diagnosis include:

1. Herpes Simplex infection can cause a stomatitis similar to that presented in this case, but the occurrence of the generalized skin lesions would be very uncommon except as a complication of eczema (as in Kaposi's varicelliform eruptions). Unlike the vesicular skin lesions seen in this case, those of herpes simplex tend to be small, clustered, and highly pruritic.

2. Varicella could produce the generalized rash and mucous membrane lesions, but the history of previous infections, absence of lesions on the face, and lack of pruritis help to rule it out.

3. Impetigo Contagiosa frequently causes lesions similar to those seen on the lips of this patient. Uncomplicated impetigo, however, is usually

not seen on an erythematous base, it tends to form thick yellow crusts, and is not seen extensively in the oral cavity.

4. Foot and Mouth Disease—it may cause in man a mild constitutional reaction with generalized vesicular eruption. The vesicles usually occur first in the mouth, rarely spread over the entire body and are followed by superficial desquamation.

5. Drug Rash—Idiosyncrasy to certain drugs may cause this syndrome. Frequent offenders are the acetanilids, barbiturates, halides, and penicillin, all of which can cause morbilliform or vesicular eruptions involving the mucous membranes. In this case, however, there had been no recent history of drug use, or of idiosyncrasy.

Erythema multiforme exudativum lies well within the diagnostic realm of the general practitioner, internist, and pediatrician. The only requisites are recognition of a group of symptoms and signs which constitute the syndrome, and an awareness of the multiplicity of the causes.

REFERENCES

1. McKee, G. M., and Cipellaro, A. C.: Skin Diseases in Childern, 2nd ed., Paul B. Hoeber, Inc., New York, 1946.
2. Finnebrud, Clark W.,: Practice of Pediatrics, W. F. Prior Co. Inc., 1948, Hagerstown, Md.
3. Wright, Lydia, and Jenkins,: Erythema Multiforme Exudativum, J. Pediat. **38:** 310, 1951.
4. Staynon, J. H., and W. P. Warner,: Mucosal-Respiratory Syndrome, Canad. M.A.J. **53:** 427, 1945.
5. Sutton, Richard Sr., and Sutton, R., Jr., Diseases of the Skin, C. V. Mosby Co., St. Louis, 1939. (pp. 142-148 & 1842-1844)
6. Duke-Elder, W. S.,: Textbook of Opthalmology, C. V. Mosby Co., St. Louis, **2:** 1733, 1938.
7. Lever, W. F., Severe Erythema, Two Cases of Type Ectodermosis Erosiva Pluriorificalis with Development of Cicatricial Conjunctivitis and Keratitis in One Case, Archives of Dermatology & Syphilology, **49:** 47, 1944.
8. Starr, Harold, and Pope, Holliday,: Erythema Multiforme as a Manifestation of Neonatal Septicemia, J. Pediat. **38:** 310, 1951.
9. Bellow, Bennet, and Lowen, Harry,: Erythema Multiforme Exudativum, Archives of Internal Medicine **90:** 310, 1952.
10. Mecklin, B., and Saunders, W.,: Successful Treatment of Stevens-Johnson Syndrome with Cortisone, New York Journal of Medicine, **52:** 1447, 1952.
11. Agostas, W. N., et al,: Erythema Multiforme Bullosum, New England J. Med **246:** 217, 1952